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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,568	01/12/2004	David Ge	334.0012	8227

25534 7590 02/08/2007

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EXAMINER	
VO, NGUYEN THANH	
ART UNIT	**PAPER NUMBER**
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/754,568	GE, DAVID	
	Examiner	Art Unit	
	Nguyen T. Vo	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 16-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12 and 16-21* is/are rejected.

7)☒ Claim(s) *11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-5, 10, 12, 16, 18-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,681,100 in view of Poulton (US 2002/0098803 A1, cited by examiner).

As to claims 1-5, 16, 18-20, claims 1-19 of the above U.S. Patent disclose all the claimed limitations except for producing a desired output power level for the transmission signal set responsive to user input to facilitate transmission as newly added in the claims. Poulton discloses producing a desired output power level for the transmission signal set responsive to user input to facilitate transmission (see paragraphs [0056], [0071], [0072]). Therefore, it would have been obvious to one of

ordinary skill in the art at the time of the invention to provide the above teaching of Poulton to claims 1-19 of the above U.S. Patent, in order to allow the user to control the output level of the amplifier in the out-door unit without having to physically access the out-door unit (as suggested by Poulton at paragraph [0072]).

As to claims 10 and 21, they are rejected for similar reasons as set forth in claims 1-5, 16, 18-20 above. In addition, Poulton further discloses transmitting a DC component representative of the transmission output level (see paragraphs [0034]-[0036], [0046], [0047]); detecting the size of the DC component and providing gain control signal (see paragraphs [0034]-[0036], [0046], [0047]).

As to claim 12, see claim 1 of the above copending application.

3. Claims 6-7, 17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,681,100 in view of Poulton and further in view of Gillespie (4,399,416, cited by examiner).

As to claims 6, 17, claims 1-19 of the above U.S. Patent fails to disclose a decoder and a plurality of parallel comparators for providing a plurality of control signals as claimed. Gillespie discloses a decoder (see column 3 lines 8-14), and a plurality of parallel comparators 55 (see figure 3) for providing a plurality of control signals C1-C5 (see column 2 line 67 to column 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Gillespie to claims 1-19 of the above U.S. Patent, in order to extend dynamic range of the amplifier (as suggested by Gillespie at column 1 lines 12-30).

As to claim 7, Gillespie discloses the claimed limitations because there are five output power levels C1-C5 while only four comparators 55 in figure 3 of Gillespie.

4. Claims 8-9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,681,100 in view of Poulton and further in view of Tsurumaki (5,345,591, cited by examiner).

As to claim 8, claims 1-19 of the above U.S. Patent fails to disclose a power injector including an input, and output, an actuator and a voltage regulator as claimed. Tsurumaki discloses a power injector including an input, and output, an actuator and a voltage regulator (see figure 4, numerals 28-29; see also voltage regulator 32 in figure 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Tsurumaki to claims 1-19 of the above U.S. Patent, in order to allow the user to manually control the operation of the outdoor unit using the knob 29 (as suggested by Tsurumaki at column 7 line 56 to column 8 line 2).

As to claim 9, Tsurumaki discloses the claimed limitations (see figure 4 of Tsurumaki).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 5, 10, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun (US 6,374,119 B1, cited by examiner) in view of Poulton (US 2002/0098803 A1, cited by examiner).

As to claim 1, Jun discloses in figure 6 an amplifier for a system having a signal source (see the output signal from figure 5) for a transmission signal, an antenna 2051, and a cable RG coupled to the signal source and the antenna, the amplifier comprising a sensor 2020 having a first input for coupling to the cable and an output, a transmission amplifier module 2010 having an input for coupling to the cable and an output for coupling to the antenna, said transmission amplifier module including an attenuator 2012 having a first input for receiving the transmission signal from the cable, a second input connected to the output of said sensor, and an output for communicating with the antenna; and wherein said attenuator varies the gain of the transmission signal received at the first input responsive to a signal received at the second input from the sensor based on voltage of the signal received at the amplifier to produce a desired output power level for the transmission signal (see column 7 line 37 to column 8 line 5). Jun fails to disclose producing a desired output power level for the transmission signal set responsive to user input to facilitate transmission as recited in the claim. Poulton discloses producing a desired output power level for the transmission signal set responsive to user input to facilitate transmission (see paragraphs [0056], [0071], [0072]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Poulton to Jun, in order to allow

the user to control the output level of the amplifier in the out-door unit without having to physically access the out-door unit (as suggested by Poulton at paragraph [0072]).

As to claim 5, see Jun, column 7 line 37 to column 8 line 5.

As to claims 10, 21, the rejection to claim 1 as set forth above is herein incorporated. In addition, Poulton further discloses transmitting a DC component representative of the transmission output level (see paragraphs [0034]-[0036], [0046], [0047]); detecting the size of the DC component and providing gain control signal (see paragraphs [0034]-[0036], [0046], [0047]).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Poulton as applied in claim 1 above and further in view of Bothorel (US 5,640,692, cited by examiner).

As to claim 2, the combination of Jun and Poulton fails to disclose that the transmission amplifier module includes a first amplifier, and a second amplifier as claimed. Such a transmission amplifier module is known as taught by Bothorel (see first amplifier 21 and second amplifier 16 in figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bothorel the combination of Jun and Poulton, in order to reduce intermodulation products (as suggested by Bothorel at column 4 lines 3-18).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Poulton and Bothorel as applied in claim 2 above and further in view of Watanabe (4,592,073, cited by examiner).

As to claim 3, the combination of Jun and Poulton and Bothorel fails to disclose that the preamplifier 21 (see Bothorel) is a variable amplifier as claimed. Watanabe discloses a variable preamplifier 11 (see figure 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Watanabe to the combination of Jun and Poulton and Bothorel, in order to provide good frequency spectrum characteristics (as suggested by Watanabe at column 1 lines 60-61).

9. Claims 4, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Poulton as applied in claims 1 and 10 above and further in view of Young (US 2003/0104780, cited by examiner).

As to claim 4, Jun as modified by Poulton discloses a receiving amplifier module (see Jun, numeral 2030 in figure 6). Jun, however, fails to disclose a first switch, a second switch and a switch controller as claimed. Young discloses in figure 3 a receiving amplifier module (see numerals 28, 30), transmission amplifier module (see numerals 34), a first switch 24, a second switch 35 and a switch controller 23. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Young to Jun, in order to provide isolation between transmitting mode and receiving mode (as suggested by Young at paragraph [0021]).

As to claim 12, the rejection to claim 4 as set forth above is herein incorporated.

10. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Poulton as applied in claim 1 above and further in view of Gillespie (4,399,416, cited by examiner).

As to claim 6, Jun as modified by Poulton fails to disclose a decoder and a plurality of parallel comparators for providing a plurality of control signals as claimed. Gillespie discloses a decoder (see column 3 lines 8-14), and a plurality of parallel comparators 55 (see figure 3) for providing a plurality of control signals C1-C5 (see column 2 line 67 to column 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Gillespie to Jun, in order to extend dynamic range of the amplifier (as suggested by Gillespie at column 1 lines 12-30).

As to claim 7, the combination of Jun, Poulton and Gillespie discloses the claimed limitations because there are five output power levels C1-C5 while only four comparators 55 in figure 3 of Gillespie.

11. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Poulton as applied in claim 1 above and further in view of Tsurumaki (5,345,591 cited by examiner).

As to claim 8, Jun as modified by Poulton fails to disclose a power injector including an input, and output, an actuator and a voltage regulator as claimed. Tsurumaki discloses a power injector including an input, and output, an actuator and a voltage regulator (see figure 4, numerals 28-29; see also voltage regulator 32 in figure 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of

the invention to provide the above teaching of Tsurumaki to Jun, in order to allow the user to manually control the operation of the outdoor unit using the knob 29 (as suggested by Tsurumaki at column 7 line 56 to column 8 line 2).

As to claim 9, the combination of Jun, Poulton and Tsurumaki discloses the claimed limitations (see figure 4 of Tsurumaki).

12. Claims 16, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Young (US 2003/0104780, cited by examiner).

As to claim 16, Jun discloses an amplifier in communication with a signal source (see output signal from figure 5) and an antenna 2051 (see figure 6), means for setting the output power level of a transmission signal based on the voltage of the transmit signal and providing a control signal (see column 7 line 37 to column 8 line 5), means for attenuating the transmit signal based in part on the control signal to produce a transmit signal with the output power level desired (see the attenuator 2012), means for transmitting the transmit signal (see antenna 2051), and means for amplification of a received signal 2030. Jun fails to disclose a bi-direction amplifier comprising means for switching between receive and transmit modes. Young discloses in figure 3 a bi-direction amplifier comprising a receiving amplifier module (see numerals 28, 30), transmission amplifier module (see numerals 34), a first switch 24, a second switch 35 and a switch controller 23. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Young to Jun, in order to provide isolation between transmitting mode and receiving mode (as suggested by Young at paragraph [0021]).

As to claims 18-19, see Jun, column 7 line 37 to column 8 line 5.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Young as applied to claim 16 above and further in view of Gillespie (4,399,416, cited by examiner).

As to claim 17, the combination of Jun and Young fails to disclose a decoder and a plurality of parallel comparators for providing a plurality of control signals as claimed. Gillespie discloses a decoder (see column 3 lines 8-14), and a plurality of parallel comparators 55 (see figure 3) for providing a plurality of control signals C1-C5 (see column 2 line 67 to column 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Gillespie to the above combination of Jun and Young, in order to extend dynamic range of the amplifier (as suggested by Gillespie at column 1 lines 12-30).

14. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jun in view of Young as applied to claim 16 above and further in view of Poulton (US 2002/0098803 A1, cited by examiner).

As to claim 20, the combination of Jun and Young fails to disclose producing a desired output power level for the transmission signal set responsive to user input to facilitate transmission as recited in the claim. Poulton discloses producing a desired output power level for the transmission signal set responsive to user input to facilitate transmission (see paragraphs [0056], [0071], [0072]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Poulton to the combination of Jun and Young, in order to allow the user to

control the output level of the amplifier in the out-door unit without having to physically access the out-door unit (as suggested by Poulton at paragraph [0072]).

Allowable Subject Matter

15. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 11, the applied prior art fail to disclose or render obvious amplifying the RF component of the signal based on the value of the DC component such that the signal prior to attenuation is of a known power level, as specified in the claim.

Response to Arguments

16. Applicant's arguments with respect to claims 1-12, 16-21 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the Double Patenting Rejections, applicant argues a *prima facie* case is not established because there is no explanation as to why it would be obvious to remove the mathematical limitations recited in claims 7, 10 and 16 in U.S. Patent No. 6,681,100 to obtain claims 1-5, 16, 18-19. The examiner, however, disagrees. Such an explanation is not needed in **obviousness** double patenting rejections, wherein the claims at issues do not have to be **exactly the same**.

Applicant's attention is also directed to the rejections above as to why the claims are not allowable over the newly cited references.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nguyen Vo

Nguyen Vo
2-3-2007

NGUYEN T. VO
PRIMARY EXAMINER